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NATIONAL-LEVEL INTELLIGENCE SUPPORT TO TARGETING

by

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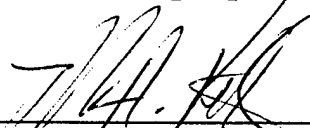
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ABSTRACT OF
NATIONAL-LEVEL INTELLIGENCE SUPPORT TO TARGETING

Major air operations will play an increasingly important role in future major regional conflicts. Intelligence support, especially national-level intelligence support, will play a significant role in determining the success of air operations and the overall campaign. This document reviews the present doctrine on intelligence support to targeting operations. It reviews national-level intelligence support for air operations in DESERT STORM as a case study. Recommendations are made in the final section to improve future support.

PREFACE

Preparation of this paper was limited to exclusively open sources. Numerous JCS and service doctrinal publications provided information on intelligence support to joint operations in general and targeting specifically. DoD, Congressional and Rand reports and numerous books provided extensive information on the DESERT STORM case study. Classified material could have provided greater detailed information. However, there was sufficient unclassified material to support the paper's thesis.

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INTRODUCTION

National level intelligence support to CENTCOM plans and forces was an essential component of the U.S. and Coalition's overwhelming success in operations DESERT SHIELD/STORM. In his testimony before Congress, General Schwarzkopf stated that:

The intelligence community gave us great support. They gave us great people. They had great systems. They worked very, very hard in supporting us. I would never ever say one bad word about the effort put forth by the intelligence community to support us.¹

National-level intelligence support to targeting in the air war was particularly important and cited as a success by the House Armed Service Committee in its report on Intelligence Successes and Failures in Operation DESERT STORM/SHIELD:

The apparently accurate breadth and depth of detail accumulated on the Iraqi chemical warfare program, the Iraqi Order of Battle, and a multitude of structures scattered through out Iraq identified as having military significance, without which the air war would never have been the success it was².

However this apparent rosy picture hides several doctrinal and communication problems within the intelligence community and between military intelligence officers and operators. The same House report that praised the identification of the "multitude of structures without which the air war would never have been the success it was" also cited "the absence of any book or doctrine on assessing battlefield damage" as one of the three most serious shortcoming of U.S. intelligence during the war.³ General Schwarzkopf, the man who praised the efforts of the intelligence community and would never ever say one bad word about its efforts, was also critical of what he saw as over cautious Battle Damage

Assessment (BDA) reporting by the national-level intelligence community:

On the eve of the ground war, it (CIA) was still telling the President that we were grossly exaggerating the damage inflicted on the Iraqis. If we'd waited to convince the CIA, we'd still be in Saudi Arabia.⁴

It is the purpose of this paper to analyze these problems and provide recommendations to alleviate them. The paper will be divided into three parts. The first section will quickly review joint targeting doctrine as defined by numerous joint publications such as Joint Pub 2-0, Joint Doctrine for Intelligence Support to Operations, the draft Joint Pub 2-01.1, Joint Tactics Techniques and Procedures for Intelligence Support to Targeting, Joint Pub 3-0, Doctrine for Joint Operations, and Joint Pub 5-0, Doctrine for Planning Joint Operations. The second part of this paper will use DESERT STORM as a case study. I have limited my case study to operation DESERT STORM for several reasons. First, for the want of a better term, the major air operations in DESERT STORM were the first to combine stealth technology and/or effective EW, precision munitions with intelligence from national level assets and agencies. Second, as Col John Warden, an airpower theorist points out, the Gulf War was the first war where an adversary was able to conduct parallel warfare, the ability to strike numerous enemy capabilities, essential industries, and infrastructure at the same time.⁵ The Gulf War was the first war where the inherent efficiency of this new air capability was combined with extensive intelligence from the national agencies. Previous air operations in Vietnam, Korea, World War II and World War I did not.

Additionally, the air operations waged by the United States and its coalition partners played a far more important role, some would argue central role, in DESERT STORM's outcome than previous wars. Of the four phases of the over all theater campaign laid out by CENTCOM, air comprised the first three.⁶

This paper will be limited to discussing targeting in Major Regional Conflicts (MRC). Targeting is used extensively in smaller air operations such as strikes and raids and non-air operations such as predominantly ground special forces operations. However, targeting in air operations for major regional conflicts represent the most complete and challenging exercise of targeting doctrine and operations.

Another question that needs to be answered from the outset is why bother looking at targeting. Targeting will play a more critical role in future major regional conflicts. Future U.S. adversaries will probably not be as cooperative an adversary as Saddam Hussein was and wait for our ground forces to arrive. USAF and USN aircraft will probably be the first to arrive in a theater and relied on to deter or significantly attrite an aggressor prior to the arrival of U.S. ground forces. Secondly, budget cuts in recent years have significantly scaled back the number of aircraft available for future conflicts making it more important that they be employed as effectively as possible. Additionally, the U.S. continues to maintain a two MRC policy forcing defense planners to rely on a smaller number of aircraft. Finally, the U.S. is a victim of its own success. Allies, domestic political leaders and

the U.S. public will expect the same outstanding results from U.S. air power in the future. Failure to meet these higher expectations may undercut public support and sow divisions with our allies or coalition partners in future wars.

DOCTRINE AND NATIONAL AGENCIES

Joint Pub 3-0, Doctrine for Joint Operations lays the foundations for targeting. It defines targeting as the "process of selecting targets and matching the appropriate response to them taking account of operational requirements and capabilities."⁷ It clearly identifies targeting as the responsibility of the Joint Force Commander (JFC), although he can delegate this role to a subordinate command.⁸ A JFC in a major operation will normally establish a Joint Force Air Component Commander (JFACC). Intelligence support to targeting will normally flow through the JFACC and is identified as playing a "critical role in planning and executing air operations."⁹ Joint Pub 2-0, Joint Doctrine for Intelligence Support to Operations, expands the definition or process of targeting, breaking it down into a six step cycle. Those steps are 1) Commander's Guidance and Objectives, 2) Target Development, 3) Weaponing Assessment, 4) Force Application, 5) Execution Planning/Force Execution, and 6) Combat Assessment.¹⁰ The next section of this paper will elaborate on the six step targeting cycle. Although intelligence plays a critical role in all six steps, I will focus on the three most critical for support from the national-level intelligence community: Commanders Guidance and Objectives, Target Development and Combat Assessment.

TARGETING CYCLE

COMMANDER'S GUIDANCE AND OBJECTIVES. The guidance and objectives phase of the targeting cycle is the most critical phase. It is predominantly the responsibility of the operators although intelligence officers can provide assistance. JP 2-0 defines it in the following:

Guidance and objectives from the NCA, as well as joint force and component commanders, serve to initiate the targeting cycle. Objectives and guidance also drive intelligence requirements, and provide criteria to measure attainment.¹¹

AFP 200-18 Target Intelligence Handbook Unclassified Targeting Principles highlights the importance of good Commander's Objectives and Guidance and states that:

A good, specific objective must be understandable, require action, be obtainable, allow some room to reach solution and provide criteria for use in measuring both progress and effectiveness.¹²

TARGET DEVELOPMENT. The target development phase is probably the most intelligence intense phase of the targeting cycle. In generic terms it involves the "systematic evaluation of all-source intelligence to identify potential target systems relevant to the commanders guidance and objectives."¹³ JP 2-01.1 identifies seven separate steps that intelligence officers or agencies need to do for target development. These are: 1) identify the target system; 2) identify components of the system; 3) identify target component elements (ie., individual targets or aimpoints); 4) conduct modeling/wargaming to see if the commander's objectives and guidance will be achieved; 5) perform target validation, rechecking the necessity of putting an individual target on a proposed list;

6) prepare documentation to pass on to operators in JFACC; and 7) establish collection and exploitation for additional information on the proposed or suspected targets.

WEAPONNEERING ASSESSMENT. Weaponneering as defined by the draft JP 2-01.1 is the "process of determining the quantity of a specific type of lethal or non-lethal weapon required to achieve a specific level of damage to a given target, considering target vulnerability, weapon effects, munitions delivery accuracy, damage criteria, probability of kill and weapon vulnerability."¹⁴ In short, after targets are identified and selected in the target development phase, intelligence officers make recommendations as to which ordnance should be used to achieve the level of destruction of a particular facility required to meet the commander's objectives.

FORCE APPLICATION. Force application is defined by JP 2-0 as the integration of the "results of earlier phases with operations planning data."¹⁵ In essence, intelligence officers work with their operational counterparts at the JFACC level providing them the results of the two previous phases of the targeting cycle.

EXECUTION PLANNING/FORCE EXECUTION. In this phase, intelligence officers provide additional assistance to operators as they plan their strikes. This assistance can include intelligence on enemy air defenses, ingress and egress routes, collateral damage considerations (ie., the location of hospitals, schools, religious buildings, antiquities, etc.) and SAFE (Selected Area For Evasion) areas if pilots are shot down.

COMBAT ASSESSMENT. The Combat Assessment phase is one of the most intelligence intense phases of the targeting cycle. It is divided into three separate functions. They are Battle Damage Assessment (BDA), Munitions Effectiveness Analysis (MEA), and Reattack Recommendations (RR). BDA compiles all the relevant information from both operators and intelligence sources to determine the level of destruction of the target and whether that destruction meets the commander's objectives. Cockpit video, pilot debriefs, SIGINT, IMINT and, if available, HUMINT reporting is used to form this analysis. BDA reporting, itself, is subdivided into three phases. First phase or physical damage assessment is an estimate of the observable damage on the facility itself. Second phase or functional damage assessment builds on the first phase and determines whether the facility or target can operate. Estimates are usually made as to how long it would take to rebuild this facility or target to recuperate. Third phase BDA or target system assessment is defined as "an estimate of the overall impact of force employment against an adversary target system" in JP 2-01.1¹⁶ For example, how does destroying a number of enemy microwave towers affect his military C3I system. The Munitions Effectiveness Assessment is done concurrently with BDA to determine whether the proper munitions/ordnance was used. Both BDA and MEA provide the basis for Reattack Recommendations. First and second phase BDA will identify whether particular facilities should be reattacked. Third phase BDA answers the question of whether a target system such as an enemies road or rail system should be attacked again or

whether a shift to another target set can or should occur. Third phase BDA, as used during the Gulf War, can also help determine when there should be a shift in the phases of a campaign.

NATIONAL LEVEL AGENCIES

The primary national-level intelligence agencies that will provide intelligence support to the targeting cycle are the Defense Intelligence Agency (DIA), Central Intelligence Agency (CIA), National Security Agency (NSA) and National Imagery and Mapping Agency (NIMA). Both CIA and DIA are all source (all-source means intelligence produced by combining HUMINT, SIGINT, IMINT and MASINT into finished intelligence products) intelligence organizations that produced finished intelligence products for both policy makers and war fighters. CIA and DIA are also producers of HUMINT on predominantly political/economic issues and military/political/economic issues, respectively. NSA (SIGINT) and NIMA (IMINT) are single source intelligence organizations that produce both raw intelligence products for other intelligence agencies to incorporate into all-source products and finished intelligence reporting to warfighters.

Intelligence support for targeting is disseminated to the theater through the theater's Joint Intelligence Center and JFC's task force or JFACC. DIA and CIA can provide political and military analysis to help the Joint Force Commander determine his guidance and objectives for the first phase of the targeting cycle. DIA in concert with CIA, NSA and NIMA nominates targets for the Target Development phase of the targeting cycle. Usually these are

both strategic and operational level targets such as leadership and C4I facilities, NBC production and storage facilities, other key defense industries, POL and electric production facilities and distribution networks, and transportation systems and facilities. These agencies also produce Target System Analysis studies that provide information on the workings of key systems such as electrical, telecommunications, road and rail and identify critical facilities or portions of those facilities for potential attack. During the Combat Assessment phase, NIMA collects, produces and distributes the imagery products for first phase BDA. Both DIA and CIA will receive intelligence from NIMA and NSA and their own HUMINT reporting, if available, to produce second and third phase BDA.

DESERT STORM CASE STUDY

As I mentioned in the introduction, the United States success in Desert Storm was in no small measure due to the outstanding performance of U.S. and Coalition airmen. The first three phases of the war: 1) strategic bombing campaign, 2) attaining air superiority over the Kuwait Theater of Operations (KTO), and 3) attriting Iraqi ground forces in the KTO, effectively cut off the Iraqi leadership from its military forces. They separated those forces from reinforcements in the north, fixed Iraqi forces in their existing positions preventing a tactical redeployment within the KTO, and finally attrited and demoralized Iraqi ground forces. The net result was that the Iraqi army that U.S. and Coalition ground forces engaged in February was dramatically weakened in its

fighting ability since the start of air operations in mid-January. The national-level intelligence community provided excellent support in almost all phases of the targeting cycle and should receive its fair share of credit for the success of the air operations. However, there are certainly several areas in the targeting cycle that improvement can and should be made. This section will highlight three areas in the targeting cycle that were problematic. Those sections are (in order of importance) BDA, the Commander's Guidance and Objectives, and Target Development.

The House Armed Services Committee's report on Intelligence Successes and Failures in Operations DESERT STORM/SHIELD, General Schwarzkopf's testimony, and the DoD's Conduct of the Persian Gulf War study point out that BDA had many problems. First, disagreements arose between national-level intelligence agencies and theater organizations over the level of destruction inflicted on both Iraqi forces in the KTO and Iraqi infrastructure. In addition to General Schwarzkopf's quote in the introduction, he was also critical of BDA reporting procedures:

I also facetiously used to kid my J-2 all the time and say, this is really great, you got a four-span bridge, you knock out two complete spans and you're only told that the bridge is 50 percent destroyed.¹⁷

These types of conflicts resulted from poor or non-existent BDA doctrine, reliance on different systems or reporting to base BDA results (i.e., relying on satellite imagery vice aircrew debriefs or cockpit video) and failure up and down the reporting chain to pass information.¹⁸ Washington often didn't pass imagery or other reports down and essential planning data such as the desired

aimpoint, weapon used, target priority and desired level of destruction was not passed up from the operators.¹⁹ Another problem with national level BDA was that it could not keep pace with some portions of the air war, especially during the third phase of the overall campaign, attriting Iraqi ground forces. As the DoD study highlights, the "air operations tempo and massive number of targets outstripped the established system for collecting and reporting intelligence."²⁰ Poor weather over the battlefield also prevented satellite systems from collecting imagery for BDA. Another problem with BDA reporting, especially on the theater level, was that BDA turned into a political football based on who was doing it and for what purpose. A Rand study on air operations in the Gulf War observed:

ARCENT and MARCENT were given the responsibility for ground operations and therefore were assigned responsibility for BDA in the KTO. A complicating factor was that the means for BDA belonged to CENTAF. Naturally fighter wings and ARCENT saw the results from a different perspective, which created a degree of friction.²¹

Target Development was also an early problem but was quickly overcome and in the end a success story. The Checkmate office of the USAF Air Staff in Washington headed up by Col John Warden, at the behest of Gen. Schwarzkopf, created an air operations plan called INSTANT THUNDER. The plan identified 84 strategic targets in 10 categories to strike. The number of targets increased to over 700 divided into 12 different categories by the end of the war.²² The intent of INSTANT THUNDER was not only to deter an Iraqi invasion of Saudi Arabia or attrite Iraqi forces in the KTO before U.S. and Coalition ground forces ejected them from Kuwait,

but to compel Saddam Hussein to leave Kuwait.²³ Target Development was initially inadequate because operators at Checkmate, CENTAF or Joint Staff J-5 did not have the intelligence community prepare a strategic target list prior to the outbreak of the war in August in support of OPLAN 1002. It is also unlikely that they included political analysis in their wargame/model to determine whether Saddam Hussein would have been compelled to leave Kuwait. Secondary imagery dissemination was also sighted as a major failure in the House committee report. Targeting related imagery was not or could not be transmitted from CONUS to the theater; and intra-theater dissemination was just as bad.²⁴ Part of the problem was that there were 12 separate Secondary Imagery Dissemination Systems (SIDS), most of which could not talk to each other.²⁵

The Commander's Guidance and Objectives could have been improved upon in several circumstances. The development of INSTANT THUNDER in addition to posing a target development problem was also a commander's guidance and objectives problem. If the intent of the plan was to force Saddam Hussein to remove his armed forces from Kuwait, it should have been clearly stated. The national-level intelligence community would have built measures of effectiveness and geared its intelligence collection to gauge the success of the plan. Additionally, guidance and objectives for several target category sets were vague and led to unfortunate consequences. The targeting and attack on the Al Firdos C3I facility that left several hundred Iraqi civilians dead is a case

in point. The fact that the intelligence community failed to determine that the facility was being used as an air raid shelter for the local civilians is undisputed. However, it was also a failure of adequately defining the commander's objectives. Completely cutting off the regime was probably impossible. It was never determined adequately as to what level should the Baghdad regime be isolated and incapacitated. Scores of previous leadership facilities and communications nodes had been struck by aircraft and TLAM attacks. Simply continuing to hit these types of facilities would risk killing civilians and jeopardizing additional aircrew for an ill defined objective. Clear objectives would have made it easier determine success and balance the risk against the benefit of continuing these attacks. In this case, the Al Firdos strike might have been canceled or the importance of the objectives might have justified continued strikes against C3I facilities despite the loss of civilian lives.

Not adequately defining the commander's objectives can explain some of the problems operators had with the intelligence community's BDA reporting. One intelligence officers responds to Gen Schwarzkopf criticism of the BDA reporting on his bridge:

At first glance, one would surmise that any reasonable person would report the bridge as totally useless, but the subject merits further exploration as an illustration why BDA can become an emotional issue, as well.

While the bridge might be 50 percent destroyed, the analyst may not have any information from the planners about what effect they were trying to achieve. Did they want all four spans dropped? How long did they want the bridge down?...Which spans were dropped? ... How many other bridges in the area can support road or rail traffic?...²⁶

Problems evolving out of the Commander's Guidance and Objectives phase of the targeting cycle are the result of poor communications between operators and intelligence officers and their respective commands and agencies. This problem was exacerbated by information from outside agencies being passed around normal intelligence channels. Both the Checkmate office and the Navy's SPEAR office provided intelligence and analysis to the theater outside of normal intelligence channels.²⁷ The existence of these separate lines of communication allowed operators to ignore conflicts between themselves and intelligence agencies and not solve them, compounding communication problems.

RECOMMENDATIONS

The Commander's Guidance and Objectives are probably the most important phase in the targeting cycle. First, the intelligence community needs to stress to the operators that their guidance and objectives must be as precise as possible for the remaining five phases to work properly. This is no less important to intelligence professionals than it is for subordinate operational commanders. Second, intelligence professionals need to be part of the process of determining those objectives. Col Warden in his book on air power doctrine The Air Campaign, identified five simple principles in establishing the air operation objectives. Of the five he writes the:

fifth, and perhaps most important, military objectives and campaign plans must be tied to political objectives **as seen through the enemy's eyes, not one's own**. Failure to follow this cardinal precept has led state after state down the primrose path to embarrassment or defeat.²⁸

National level intelligence agencies such as DIA and CIA have the expertise to "see through the enemy's eyes" in both political and military strategic terms. CIA and DIA participation in this process will not guarantee success. However, it will ground the connection between military and political objectives in something more than wishful thinking.

Target Development must also be improved in future operations. First, the national-level intelligence agencies have the expertise to develop many of the target sets and must be relied upon to develop measures of effectiveness used in an air operation. Of the 12 target sets used in DESERT STORM eight are analyzed at the national level. They are leadership command facilities, electric production, telecommunication and command and control nodes, NBC research, production and storage facilities, TBM production facilities, POL refining and distribution facilities, railroads/bridges, military industrial facilities.²⁹ Second, wargaming or modeling air operations is essential to validate the strategy and selection of facilities and their priority. National-level agencies must be included in these efforts. The best means to do so is through the deliberate planning process organized by the J-5s at the JCS and theater level. It is essential that planning be done prior to a crisis or outbreak of hostilities; it is unlikely a future adversary will give the U.S. several months to prepare for a war as the Baghdad regime did. Third, using the approved intelligence chain to pass information up and down from the theater is also critical. Using it will avoid duplication of effort in

many instances. Different opinions are nothing new to the intelligence community. Keeping these differing opinions in the open will lead to a debate identifying each opinion's strengths and weaknesses. Finally, communication and dissemination systems have significantly expanded since the Gulf War and will alleviate the problem of data sharing.

The Combat Assessment phase of the targeting cycle has been improved but will require greater effort in the future. Nothing focuses the American military establishment, to include military intelligence, on fixing a problem like failure, especially when it is pointed out by the CINC, DoD officials and the Congress. BDA doctrine and training have significantly improved. New communication systems allow satellite imagery to be passed down to the theater level and cockpit video to be passed up to the national. Secondary Imagery Dissemination Systems have been standardized throughout the services to facilitate passing imagery within the theater. First, the recommendations outlined in the two previous phases should improve combat assessment. Second, national level agencies must participate in combat assessment, especially third phase BDA. As mentioned above, the national level agencies still house the expertise in numerous critical areas. In addition to the principle of Unity of Effort suggested above, Continuity of Effort is essential. The individual analysts who developed the target lists, measures of effectiveness and wargamed them are the best choice to evaluate the effectiveness of the strikes in the BDA process. All of the above will certainly mitigate disagreements

over BDA in a future conflict; however, they will not do away with them. Differences in BDA estimates reflect the different cultures of the various communities that do BDA; intelligence officers and ground operators will interpret the same information differently than aviators. The gap between the various estimates not to mention what the true BDA picture of an enemy force is will be what Clausewitz defined as the "Fog of War". Future advances in technology and doctrine will unlikely dissipate this fog. As in Clausewitz's time, it will be up to the commander to see through this fog.

CONCLUSION

Air operations will remain extremely important in all major regional conflicts in the future. Intelligence support to the targeting cycle will be critical in determining the success of future air operations and the overall campaign plan. Significant improvements in doctrine, practices and equipment have already made major steps in correcting the problems cited in DESERT STORM reports and testimony. However, additional improvements need to be made. The recommendations outlined in this paper are a start.

GLOSSARY

BDA	Battle Damage Assessment
C4I	Command, Control, Communications, Computers and Intelligence
HUMINT	Human Intelligence
IMINT	Imagery Intelligence
JFACC	Joint Force Air Component Commander
JFC	Joint Force Commander
KTO	Kuwaiti Theater of Operations
MASINT	Measurement and Signature Intelligence
MEA	Munitions Effectiveness Analysis
MRC	Major Regional Conflict
NBC	Nuclear, Biological and Chemical
POL	Petroleum Oil Lubricants
RR	Reattack Recommendations
SIDS	Secondary Imagery Dissemination System
SIGINT	Signals Intelligence
TBM	Tactical Ballistic Missile

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3. Ibid, p.27.
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Col Warden identifies five rings of capabilities that a state possesses to make war. Those rings are, from the inside out Leadership, Organic Essentials (POL, Electricity, Mil indus.) Infrastructure (Roads, rail, ports, airfields), Population and Fielded Military. In parallel warfare several of these rings can be attacked at the same time denigrating the ability of one of the rings to come to the assistance of the others, causing a systemic failure and capitulation of a state. This is contrasted with Serial Warfare, i.e. attacking one ring at a time.
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